

AMENDMENTS TO THE CLAIMS

Claim 1. (currently amended): An optical device, comprising:

a substrate comprising:

a smooth regularly shaped exterior surface; and

an irregularly shaped exterior output surface, said irregularly shaped exterior output surface comprising: an irregularly shaped exterior output surface, further comprising,

a first optical element for directing a first portion of an incident light beam exiting the irregularly shaped exterior output surface via the first optical element in a predetermined first direction; and

a second optical element, adjacent to said first optical element on the irregularly shaped exterior surface and formed on a same side of said irregularly shaped exterior output surface as said first optical element, for directing a second portion of said incident light beam exiting the irregularly shaped exterior output surface via the second optical element in a predetermined second direction[[,]] different from said predetermined first direction;

wherein

~~said second direction is different than said first direction,~~

~~said second optical element is adjacent said first optical element,~~

said first optical element is of a first shape, said second optical element is of a second shape[[,]] ~~said first shape is different from said second shape,~~

said first and second shapes are ~~being~~ microwedges, and

said first optical element and said second optical element have non-textured and substantially planar output surfaces, ~~and are formed by shaping a same substrate.~~

Claim 2. (currently amended): The device of claim 1, wherein said first and second optical elements are transparent.

Claim 3. (currently amended): The device of claim 1, wherein said first and second optical elements are reflective.

Claims 4-5 (cancelled)

Claim 6. (original): The device of claim 1, further comprising a lens for performing a Fourier transform operation.

Claim 7. (original): The device of claim 1, further comprising a device for optically modifying said incident light beam.

Claim 8. (original): The device of claim 1, wherein said optical elements are arranged to split the incident light beam.

Claim 9. (currently amended): An optical system, comprising:

a light source for providing a light beam; and

an optical device for homogenizing said beam, said optical device including a[[n]] substrate, the substrate comprising:

a smooth regularly shaped exterior surface; and

an irregularly shaped exterior output surface, said irregularly shaped exterior output surface further comprising, a plurality of adjacent optical elements for directing light exiting the irregularly shaped exterior output surface to form
~~forming~~ respective non-adjacent portions of an angular pattern,

wherein said optical elements are microwedges formed on a same side of said irregularly shaped exterior output surface, by shaping a same substrate and said microwedges have non-textured and substantially planar output surfaces and different three-dimensional configurations.

Claim 10. (original): The system of claim 9, wherein said device is transparent.

Claim 11. (cancelled)

Claim 12. (allowed): A method of making an optical device, said method comprising the steps of:

dividing an angular pattern into a plurality of sub-angular regions;

determining micro-wedge configurations for directing light to said sub-angular regions;
and

subsequently, generating an array of micro-wedges according to said micro-wedge configurations, such that adjacent micro-wedges in said array have different configurations.

Claim 13. (allowed): The method of claim 12, wherein the two-dimensional arrangement of said micro-wedges in said array is essentially random with respect to the two-dimensional arrangement of said sub-angular regions of said pattern.

Claim 14. (allowed): The method of claim 13, further comprising the step of assigning said micro-wedge configurations to random locations in said array.

Claim 15. (allowed): The method of claim 14, wherein said determining step includes the step of calculating output surface slopes for said micro-wedges.

Claim 16. (allowed): The method of claim 15, wherein said step of generating said array includes the step of forming phase tare surfaces in said micro-wedges.

Claim 17. (allowed): The method of claim 16, wherein said generating step includes the step of forming output surfaces for said micro-wedges.

Claim 18. (allowed): The method of claim 12, further comprising the step of providing a plurality of tiles of said micro-wedge arrays.